INTRODUCTION: Low density lipoprotein (LDL) oxidation in vascular wall is considered a key factor in atherosclerosis development. Considering the oxidative events in atherosclerotic lesion, several studies have investigated the beneficial effects of natural antioxidants. Syzygium cumini (S. cumini) is a plant used to treat hyperglycemia in Brazilian folk medicine. Indeed, there is evidence that S. cumini exhibits anti-inflammatory, antioxidant, anti-hyperglycemic and anti-HIV properties. However, there are no works about the effect of S. cumini on LDL oxidation. Thus, this study was undertaken to evaluate the effects of S. cumini aqueous-leaf extract (S.cExt) on human LDL oxidation CuSO₄-induced. MATERIALS AND METHODS: Lyophilized S.cExt was dissolved in distilled water and incubated with human plasma for 5h at 37ºC. Then, LDL was isolated from human plasma by discontinuous density-gradient ultracentrifugation as described by Silva et. al. (1998). The effect of S.cExt (400 and 600 µg/ml) on human LDL oxidation CuSO₄-induced was evaluated analyzing the formation of conjugated dienes (Esterbauer et. al., 1989) and thiobarbituric acid reactive substances (TBARS) (Okhawa et. al., 1979). The role of S.cExt on oxidative damage in the apolipoprotein B-100 (apoB-100) of LDL was assessed by the loss of tryptophan fluorescence (Reyftmann et. al., 1990). RESULTS: The pre-incubation of human plasma with S.cExt (400 and 600 µg/ml) was effective in delaying the conjugated dienes formation in LDL. The S.cExt, at both concentrations, also reduced partially the TBARS levels and the apoB-100 oxidation induced by CuSO₄ in LDL. CONCLUSIONS: Taken together, the results show the protective effect of S.cExt against the oxidative events CuSO₄-induced in LDL and suggest that S. cumini might be a novel anti-atherosclerotic agent.

Key Words: LDL, Syzygium cumini, atherosclerosis
Acknowledgments: FAPERGS, CNPq and CAPES